

# AWFCG Fire, Research, Development, & Application Committee (FRDAC)



## **AWFCG**

### **U.S. Department of the Interior**

Bureau of Indian Affairs  
Bureau of Land Management  
National Park Service  
US Fish and Wildlife Service

### **State of Alaska**

Department of Fish and Game  
Department of Natural Resources  
Division of Forestry  
Department of Environmental Conservation

### **U.S. Department of Agriculture**

US Forest Service

### **Native Organizations**

Association of Village Council Presidents  
Chugachmiut  
Tanana Chiefs Conference

<https://www.frames.gov/afsc/partners/frdac>

# AWFCG Fire Research Priorities

- Developed AWFCG fire research needs lists periodically since 1999.
- Last full list from 2017:  
[https://www.frames.gov/documents/alaska/AWFCG\\_research-needs\\_2017.pdf](https://www.frames.gov/documents/alaska/AWFCG_research-needs_2017.pdf)

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Priority 1

Category Fire Behavior

Research ID 2010-29

Topic Fire Behavior Models: Validation and Application

Research is needed to improve the knowledge of fire behavior and appropriate fuel models for Alaska. More information on the 40 Fuel Models and the Canadian Forest Fire Behavior Prediction (FBP) Fuel Models is needed on a spatial scale and in relation to fire behavior modeling. Fire modeling tools are currently utilized by Alaska fire managers (e.g. Fire Spread Probability [FSPro] in the Wildland Fire Decision Support System [WFDSS]). Efforts have been made to relate LANDFIRE ecotypes to Alaskan Fuel Models. However, questions remain about the accuracy of the LANDFIRE vegetation classifications and crosswalks between LANDFIRE and Alaskan fuel types. There is a need for research that will improve the knowledge of fire behavior and appropriate fuel models for several unique fuel types; wetlands, shrublands, and tundra ecosystems as well as in forested ecosystems with insect and disease damage. Additionally, fuel models and fire behavior in early successional post-fire forest types are also of particular interest since shortened fire return intervals are occurring and recent burned areas are no longer acting as fuel breaks.

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Issue: Fire behavior validation of the 40 Fuel Models and Canadian Fuel Models used in Alaska.

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Issue: How accurate are the LANDFIRE vegetation classifications? How accurate are the crosswalks between LANDFIRE and Alaskan fuel types?

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Issue: Landscape-level landcover classifications and fuels maps need to be updated to incorporate succession within recent burns before modeling application.

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Issue: Which fuel models should be used for non-forested tundra ecosystems, early successional post-fire forests and forested ecosystems with insect and disease damage? Validate fuel models against actual fire behavior.

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Issue: Are fire behavior modeling tools accurately reflecting drought conditions? How well do the models correlate with CFFDRS indices, fuel moisture, and observed fire behavior?

# Priorities from 2017



- ▶ **Fire behavior modeling** – validating fire behavior models used in Alaska, fuel models, and fuel model mapping improvements
- ▶ **CFFDRS Fire Danger/Weather Indices** – validation and calibration
- ▶ **Fuels Treatments** – short and long-term effectiveness
- ▶ **Climate and Fire Regime Change**
- ▶ **Fire Weather Forecasting**

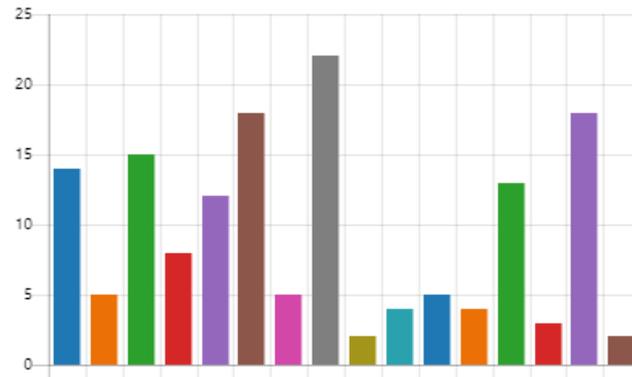
# 2022 Survey refresh the AWFCG Fire Research Needs list

<https://forms.office.com/g/PY2rT7hXWS>

## 1. Top 5 Fire Research Needs for Alaska

[More Details](#)

● Fire Behavior	14
● Fire Rehab	5
● Fire Effects	15
● Fire Danger	8
● Fire Weather	12
● Fuels Treatments	18
● Smoke Emissions	5
● Climate Change Impacts	22
● Wildlife	2
● Invasive Plants	4
● Fire Tactics	5
● Fire Regimes	4
● Permafrost	13
● Carbon	3
● Fire Risk	18
● Other	2



- Climate change impacts
- Fuels treatments
- Fire risk
- Fire effects
- Fire behavior

Broad topics – details to be developed

2. What fire science information do you NEED to better manage your agency or program?

# Fire Research and Applications

## A lot of fire research completed

Alaska Fire Science Consortium

<https://www.frames.gov/afsc/home>

- How do fire managers, forest managers utilize or apply the research that has already been completed?
- Best methods to incorporate into agency policy and actions?

Alaska Fire Science Consortium

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Working together to bridge the gap in boreal and arctic fire science delivery, outreach, and application

About Events & Webinars Reference Database Resources Partners Projects

Upcoming Events

Webinar - Wildfire and Wine Science Pub  
Nov 9, 2021 4:30 pm to 5:30 pm AKST

Postponed: Research to Operations (R2O) workshop: Using ABoVE Data in Fire and Resource Management  
May 13, 2022 (All day) to May 14, 2022 (All day) AKDT

POSTPONED: DOI Wildland Fire Workshop (online)  
Sep 6, 2022 (All day) to Sep 7, 2022 (All day) EDT

Wildfire is Transforming Alaska and Amplifying Climate Change